

WHAT IS CLAIMED IS:

1. A recording head for generating an optical near field and thermo-magnetically recording information on a recording medium, comprising:

5 a light source;

a first magnetic pole for applying a magnetic field to the recording medium; and

a diffuser that generates an optical near field in the vicinity of the recording medium when light is radiated from the light source, wherein:

10 the diffuser is formed with it in contact with the first magnetic pole so that the face which light from the light source irradiates is substantially perpendicular to the recording medium.

15 2. A recording head according to Claim 1, wherein:

the diffuser is arranged between a direction in which light from the light source is outgoing and the first magnetic pole with the back of the face which the light irradiates in contact with the first magnetic pole.

3. A recording head according to Claim 1, further comprising:

25 a second magnetic pole different from the first magnetic pole, wherein:

the diffuser is arranged between the light source and the second magnetic pole.

4. A recording head according to Claim 3,

wherein:

the diffuser is arranged between the first magnetic pole and the second magnetic pole with the face which light irradiates of the diffuser in contact
5 with the first magnetic pole.

5. A recording head according to Claim 3, wherein:

the second magnetic pole is formed so that it is substantially perpendicular to the recording medium
10 and is substantially orthogonal to a scanning direction.

6. A recording head according to Claim 1, wherein:

the diffuser is substantially an isosceles triangle; and

15 the diffuser is installed with its vertex between two sides equal in the length opposite to the recording medium.

7. A recording head according to Claim 1, wherein:

20 the diffuser is made of any of Au, Pd, Pt, Rh and Ir or an alloy of these.

8. A recording head according to Claim 3, wherein:

25 one end of the first magnetic pole is connected to the second magnetic pole;

the other end reaches the bottom of the recording head; and

the first magnetic pole is opposite to the

information recording medium.

5 9. An information recording/reading apparatus for generating an optical near field and thermo-magnetically recording/reading information on a recording medium, comprising:

 a light source;

 a magnetic pole for applying a magnetic field to the recording medium; and

10 a diffuser that generates an optical near field when the diffuser receives light from the light source, wherein:

 the diffuser is formed with it in contact with the magnetic pole so that the face which light from the light source irradiates is substantially perpendicular to the recording medium; and

15 magnetic flux detection means that detects a magnetic flux of the recording medium is provided.

 10. An information recording/reading apparatus according to Claim 9, further comprising:

20 scanning means so that the diffuser and the magnetic flux detection means scan a desired position of the recording medium.